

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number
WO 2005/075354 A2

(51) International Patent Classification⁷: **C01G 23/053**

(21) International Application Number:
PCT/FI2005/000074

(22) International Filing Date: 4 February 2005 (04.02.2005)

(25) Filing Language: Finnish

(26) Publication Language: English

(30) Priority Data:
20040186 6 February 2004 (06.02.2004) FI

(71) Applicant (for all designated States except US): **KEMIRA PIGMENTS OY** [FI/FI]; Porkkalankatu 3, FI-00180 Helsinki (FI).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KARVINEN, Salla** [FI/FI]; Kuusamantie 37, FI-28660 Pori (FI). **LAMMIN-MÄKI, Ralf-Johan** [FI/FI]; Pajatie 5, FI-28450 Vanha-Ulvila (FI).

(74) Agent: **BERGGREN OY AB**; P.O. Box 16 (Jaakonkatu 3 A), FI-00101 Helsinki (FI).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TITANIUM OXIDE PRODUCT METHOD FOR MAKING THE SAME AND ITS USE AS A PHOTOCATALYST

(57) Abstract: The invention relates to a process for manufacturing a particulate titanium dioxide product, wherein hydrated titanium dioxide is precipitated from an aqueous solution of titanium oxychloride by adding to the solution titanium dioxide particles as crystal nuclei and the product obtained from the precipitation step is isolated and optionally calcined. The process is characterized by the addition of crystal nuclei to an aqueous solution of titanium oxychloride having a content of >90 g TiO₂/l calculated as TiO₂ and the performance of precipitation at a temperature below the boiling point of the said aqueous solution and at normal pressure. In addition, the invention relates to a titanium dioxide product prepared by using the process, the use of the product as a photocatalyst, and a photocatalyst, which comprises a titanium dioxide product prepared according to the invention.



WO 2005/075354 A2